

1. Which of the following intervals describes the Domain of the function below?

$$f(x) = -\log_2(x + 5) - 3$$

- A.  $(a, \infty), a \in [-7.4, -3.6]$
  - B.  $[a, \infty), a \in [-3.7, -0.2]$
  - C.  $(-\infty, a), a \in [3.7, 6]$
  - D.  $(-\infty, a], a \in [-0.5, 3.9]$
  - E.  $(-\infty, \infty)$
- 

2. Which of the following intervals describes the Range of the function below?

$$f(x) = e^{x-1} - 8$$

- A.  $[a, \infty), a \in [-8, -2]$
  - B.  $(a, \infty), a \in [-8, -2]$
  - C.  $(-\infty, a), a \in [3, 11]$
  - D.  $(-\infty, a], a \in [3, 11]$
  - E.  $(-\infty, \infty)$
- 

3. Which of the following intervals describes the Range of the function below?

$$f(x) = -\log_2(x + 1) - 4$$

- A.  $(-\infty, a), a \in [1.5, 5.6]$
  - B.  $(-\infty, a), a \in [-4.9, -3.4]$
  - C.  $[a, \infty), a \in [0.5, 1.7]$
  - D.  $[a, \infty), a \in [-3, 0.9]$
  - E.  $(-\infty, \infty)$
-

4. Solve the equation for  $x$  and choose the interval that contains  $x$  (if it exists).

$$10 = \sqrt[5]{\frac{14}{e^{6x}}}$$

- A.  $x \in [-0.9, 0.6]$
  - B.  $x \in [0.6, 2.6]$
  - C.  $x \in [-9.1, -8.5]$
  - D. There is no Real solution to the equation.
  - E. None of the above.
- 

5. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$5^{2x+5} = 9^{4x-3}$$

- A.  $x \in [2.23, 2.85]$
  - B.  $x \in [0.83, 2.19]$
  - C.  $x \in [7.01, 8]$
  - D.  $x \in [3.84, 5.34]$
  - E. There is no Real solution to the equation.
- 

6. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$3^{2x+5} = \left(\frac{1}{343}\right)^{4x-5}$$

- A.  $x \in [4.5, 6]$
- B.  $x \in [0.7, 1]$
- C.  $x \in [-2.1, 0.4]$
- D.  $x \in [-11.9, -11.1]$
- E. There is no Real solution to the equation.

- 
7. Which of the following intervals describes the Domain of the function below?

$$f(x) = e^{x+8} - 1$$

- A.  $(a, \infty), a \in [-0.9, 1.6]$
  - B.  $(-\infty, a], a \in [-2.2, -0.4]$
  - C.  $(-\infty, a), a \in [-2.2, -0.4]$
  - D.  $[a, \infty), a \in [-0.9, 1.6]$
  - E.  $(-\infty, \infty)$
- 

8. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$\log_4(3x + 8) + 4 = 3$$

- A.  $x \in [18.33, 19.06]$
  - B.  $x \in [2.79, 3.04]$
  - C.  $x \in [-2.41, -1.84]$
  - D.  $x \in [-3.03, -2.53]$
  - E. There is no Real solution to the equation.
- 

9. Solve the equation for  $x$  and choose the interval that contains the solution (if it exists).

$$\log_4(4x + 6) + 5 = 3$$

- A.  $x \in [8.5, 19.5]$
- B.  $x \in [-4.48, 0.52]$
- C.  $x \in [1.5, 4.5]$
- D.  $x \in [5.5, 6.5]$
- E. There is no Real solution to the equation.

10. Solve the equation for  $x$  and choose the interval that contains  $x$  (if it exists).

$$16 = \sqrt[7]{\frac{20}{e^{3x}}}$$

- A.  $x \in [3.47, 6.47]$
  - B.  $x \in [-1.85, 2.15]$
  - C.  $x \in [-39.33, -36.33]$
  - D. There is no Real solution to the equation.
  - E. None of the above.
-